

ABSTRACT

The present invention provides a hot dip galvanized composite high strength steel sheet excellent in shapeability and hole enlargement ability and a method of production of the same, that is, a hot dip galvanized composite high strength steel sheet excellent in shapeability and hole enlargement ability containing C: 5 0.01 to 0.3%, Si: 0.005 to 0.6%, Mn: 0.1 to 3.3%, P: 0.001 to 0.06%, S: 0.001 to 0.01%, Al: 0.01 to 1.8%, and N: 0.0005 to 0.01% and having a metal structure of ferrite and, by area rate, 5% to 60% of tempered martensite and a method of production of the same comprising hot rolling, then cold rolling a slab 10 including the above ingredients, heating the sheet in the hot dip galvanization heating process to  $Ac_1$  to  $Ac_3+100^\circ\text{C}$ , holding it there for 30 seconds to 30 minutes, then cooling it by a  $1^\circ\text{C}/\text{s}$  or higher cooling rate to 450 to 15 600 $^\circ\text{C}$ , hot dip galvanizing it at that temperature, then cooling it at a  $1^\circ\text{C}/\text{s}$  or higher cooling rate to the martensite transformation point or lower in temperature, holding it there at 200 $^\circ\text{C}$  to 500 $^\circ\text{C}$  for 1 second to 5 20 minutes, then cooling it at a  $5^\circ\text{C}/\text{s}$  or higher cooling rate to 100 $^\circ\text{C}$  or less.